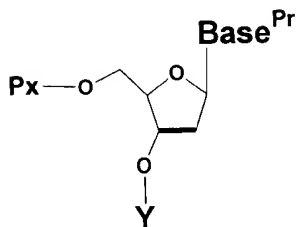
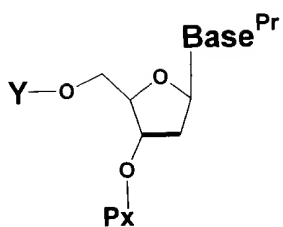


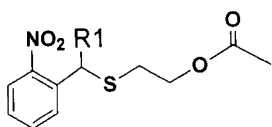
Figure 1



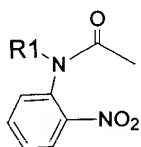
Px = phosphoramidite, H-phosphonate, phosphate triester

Y = general structures (R1 = H, alkyl, aryl)

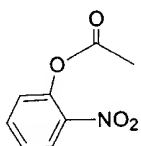
o-nitrobenzylthioethoxycarbonyl NBTEOC:



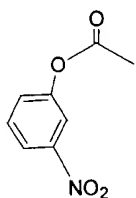
o-nitrophenylaminocarbonyl NPAC



o-nitrophenoxycarbonyl N2POC



m-nitrophenoxycarbonyl N3POC



o-nitrophenylthioethoxycarbonyl

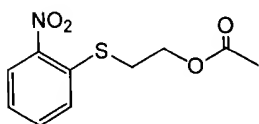
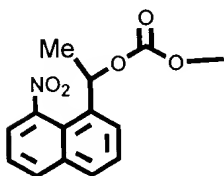
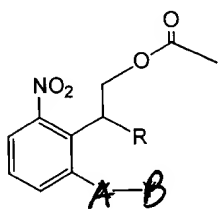


Figure 1 (a)

α -methyl-8-nitronaphthylmethoxycarbonyl MeNMOC

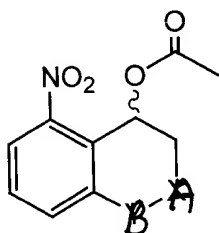


6-substituted 2-(o-nitrophenyl)-2-propyloxycarbonyl 6NPPOC



A = O, S, N-alkyl, N-aryl, (CH₂)_n, where n = 0 - ~3)
B = aprotic weakly basic group - eg.: N-alkylimidazole)

cyclic o-nitrobenzyloxycarbonyl



Specific examples tested...

Figure 2

TEMPOC

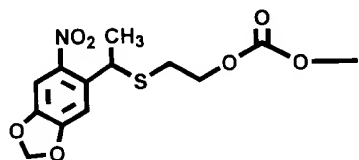
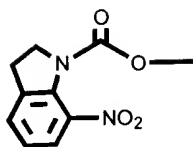
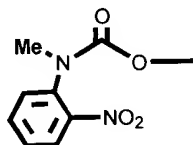


Figure 2 (cont'd)

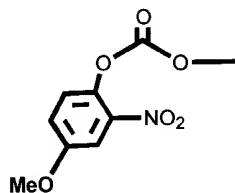
NIOC



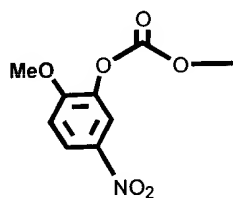
NAMOC



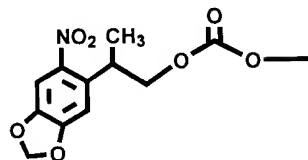
MeN2POC



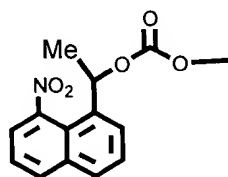
MeN3POC



NP2POC



NNEOC



1007160 " 66565960

Coupling Efficiency Data

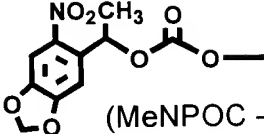
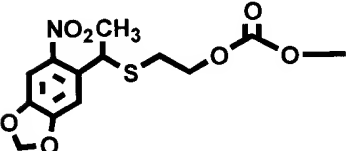
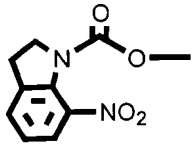
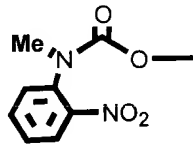
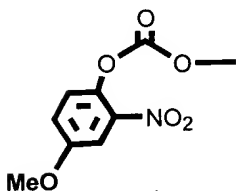
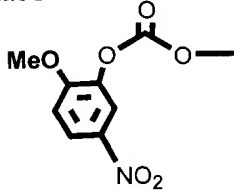
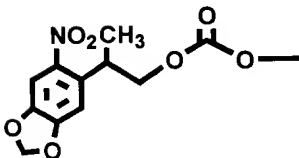
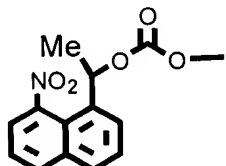
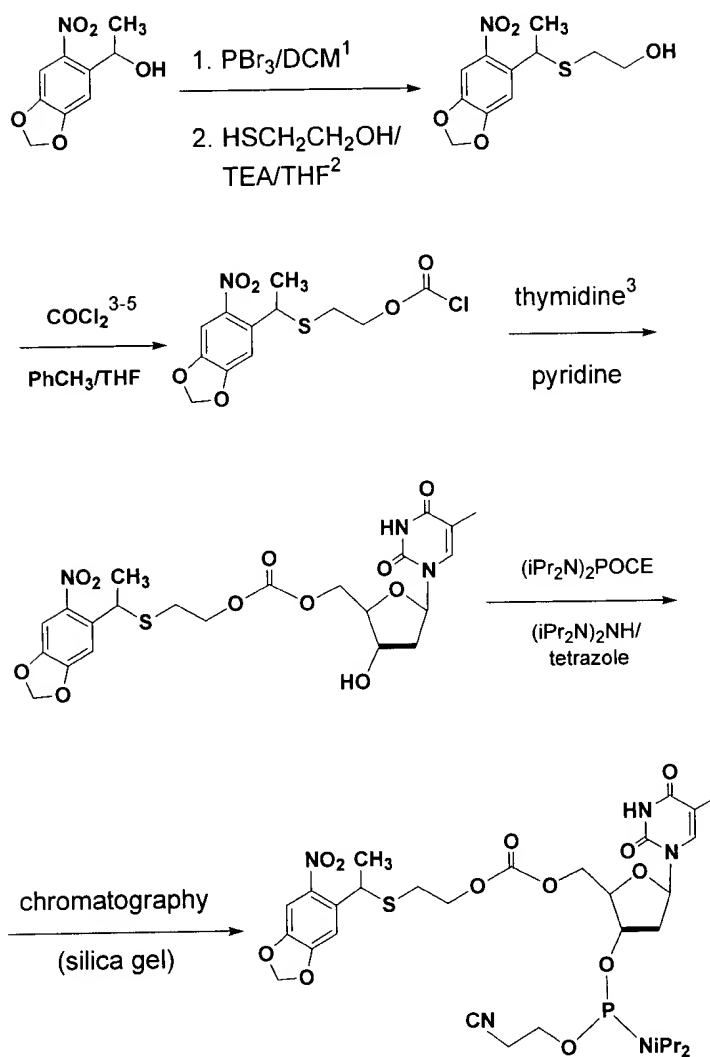
Y =	stepwise yield	photolysis conditions
 <p>(MeNPOC - control)</p>	~88 %	nonpolar solvent
	~85 %	MeOH
	95%	DMSO
	94%	nucleophilic solvent (MeOH)
	~80%	nucleophilic solvent (MeOH)
	~75 %	nucleophilic solvent (MeOH)
	90 %	basic solvent (1%NMI/DMSO)
	96 %	DMSO

Figure 3

5'-TEMPOC-T-Phosphoramidite



1 Dyer, et al. JOC 64: 7988 (1999)

2 Tetrahedron Lett., 38(52), 8933-4 (1997)

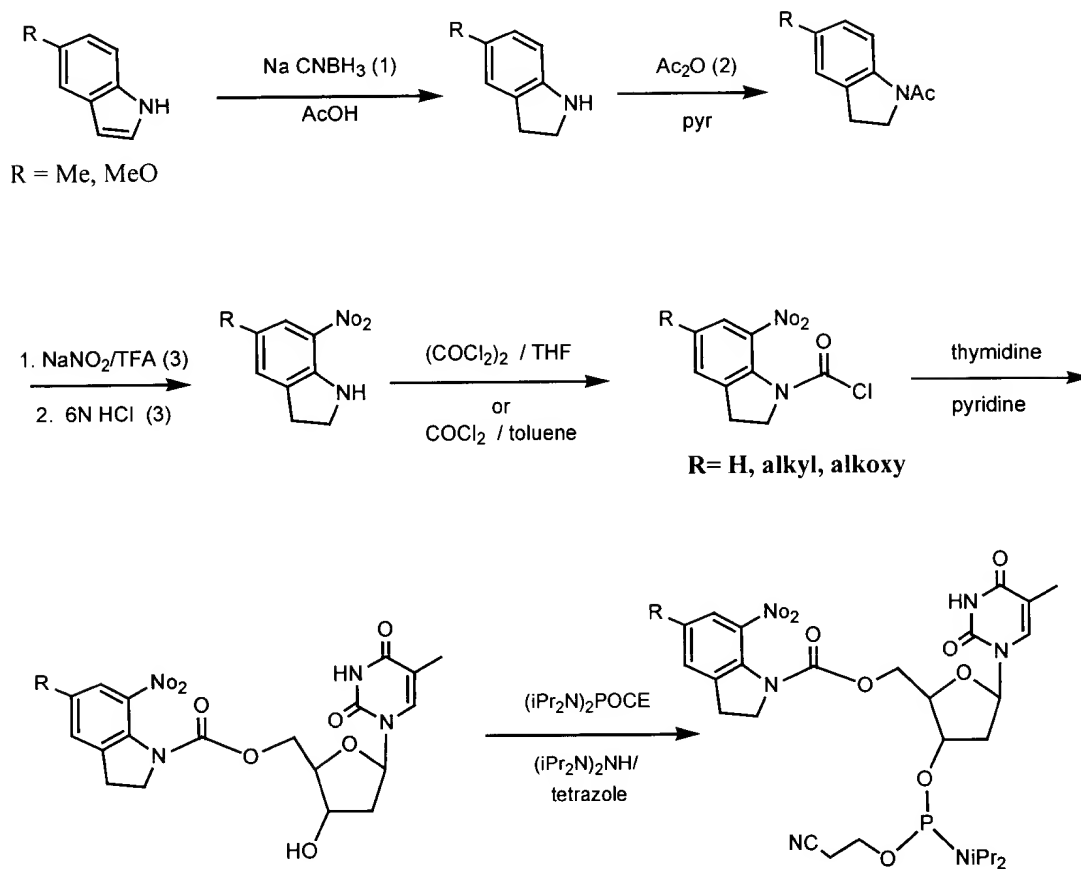
3 McGall, et al. JACS 119: 5081 (1997)

4 triphosgene may work equally well for this step.

5 chloroformate can probably be used without purification.

Figure 4

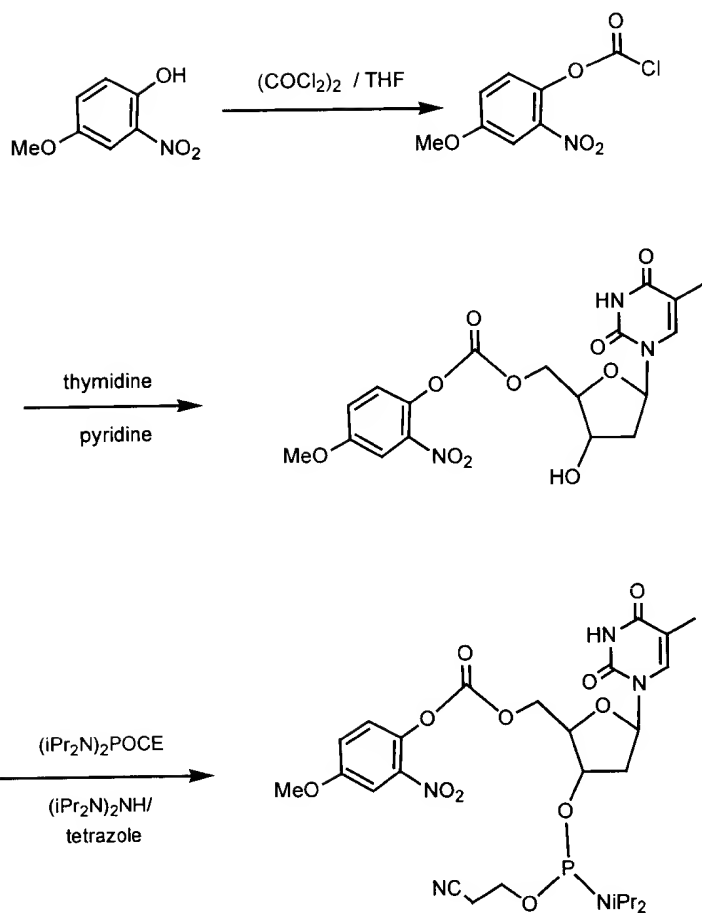
Synthesis of NINOC-T-CEP



- (1) Bromidge, et al. (1998) *J. Med. Chem.* **41**: 1598.
 (2) (i) Brooker, LS, et al. (1953) *US Pat.* 2,646,430; (ii) Boekelheide, et al. (1954) *J. Org. Chem.* **19**: 504.; (iii) Bennet, et al (1941) *J. Chem. Soc.* **74**: 244.
 (3) Mortensen, et al. (1996) *Org. Prep. Proc. Int.* **28**: 123.

Figure 5

Me2NPOC-T-CEP



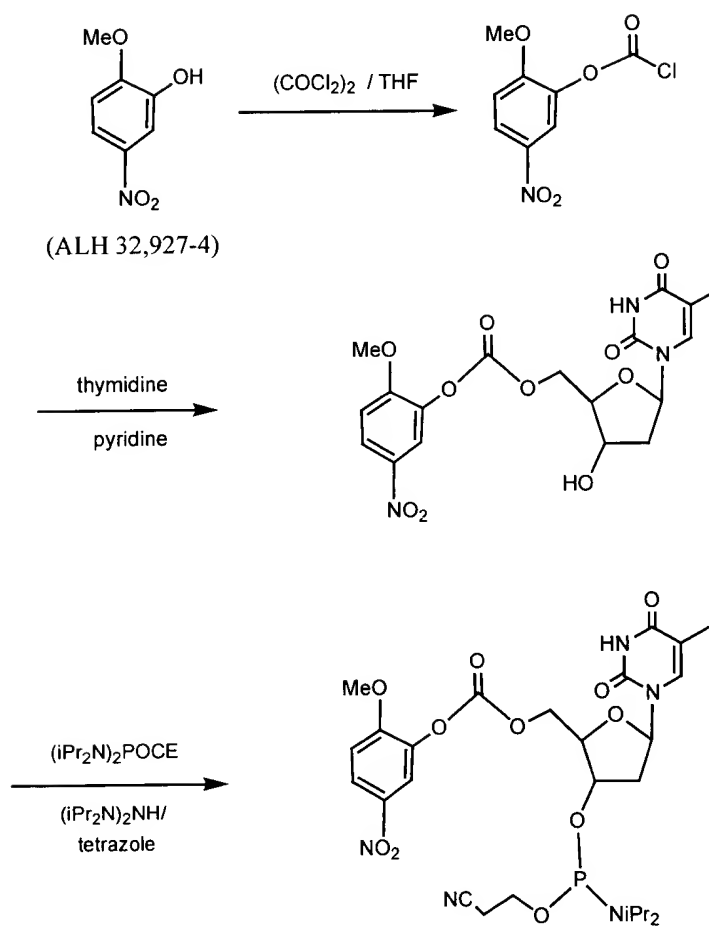
[illegible]Me₃NPOC-T-CEP

Figure 7

NP2POC-T-CEP

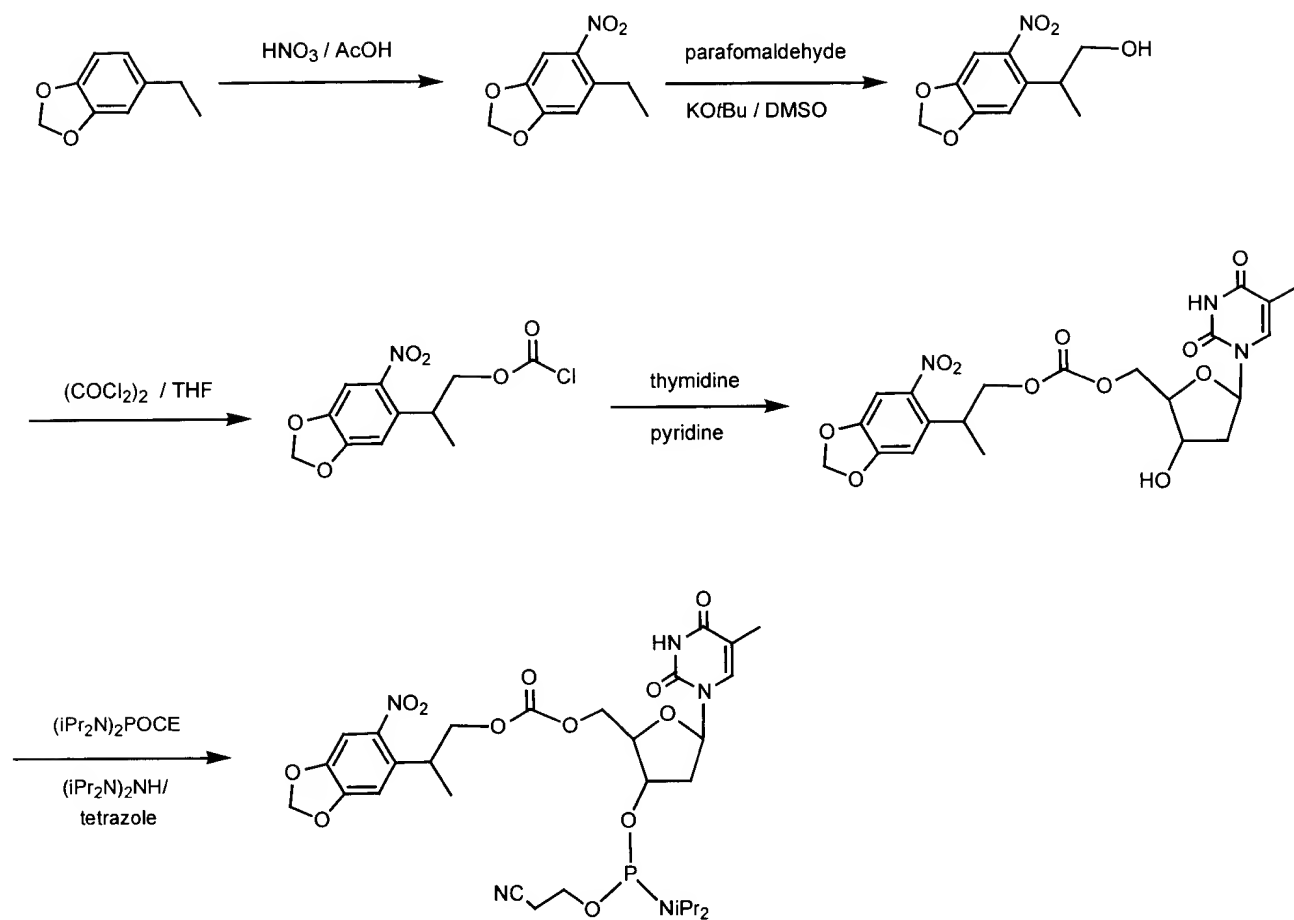


Figure 8

NNEOC-T-CEP

